

What is claimed is:

1. A driving device for a display panel, the display panel including a plurality of address electrodes, a plurality of data electrodes, a plurality of display elements and a first substrate such that the plurality of address electrodes and data electrodes intersect each other on the first substrate and enclose the plurality of display elements between the plurality of address electrodes and data electrodes, the driving device comprising:

a second substrate;

a plurality of control lines for address signal generation, provided mutually in parallel;

an insulating film;

a channel material film in contact with the insulating film; and,

a plurality of extension lines extending to the plurality of address electrodes, respectively, such that at least the insulating film is enclosed between the plurality of extension lines and the plurality of control lines on the second substrate, and such that the plurality of extension lines intersect with the plurality of control lines to form a plurality of intersecting portions, and each of the plurality of extension lines has at least one disconnected portion at the plurality of intersecting portions.

2. The driving device according to claim 1, wherein each of the control lines is in contact with the second substrate.

3. The driving device according to claim 1, wherein each of the extension lines is in contact with the second substrate.

4. The driving device according to claim 1, wherein the control lines and the extension lines enclose the insulating film only, and the channel material film extends in the disconnected portions of the extension lines and further extends over the extension lines.

5. The driving device according to claim 1, wherein the channel material film is segmented into a plurality of film segments such that the plurality of film segments extend along the plurality of extension lines, respectively.

6. The driving device according to claim 1, wherein the channel material film is provided only in the disconnected portions of the extension lines.

7. The driving device according to claim 1, wherein the insulating film and the channel material film are both enclosed between the plurality of extension lines and the plurality of control lines on the second substrate.

8. The driving device according to claim 1, wherein the first substrate and the second substrate are the same substrate.

9. A driving device for a display panel, the display panel including a plurality of address electrodes, a plurality of data electrodes, a plurality of display elements and a first substrate such that the plurality of address electrodes and data electrodes intersect each other on the first substrate and enclose the plurality of display elements

between the plurality of address electrodes and data electrodes, the driving device, comprising:

a second substrate;

a plurality of control lines for address signal generation, provided mutually in parallel;

an insulating film;

a diode functional film; and,

a plurality of extension lines extending to the plurality of address electrodes, respectively, such that the insulating film and the diode functional film generally extend between the plurality of extension lines and the plurality of control lines on the second substrate, such that the plurality of extension lines intersect with the plurality of control lines to form a plurality of intersecting portions, and such that the insulating film has at least one aperture in at least one of the plurality of intersecting portions.

10. The driving device according to claim 9, wherein each of the control lines is in contact with the second substrate.

11. The driving device according to claim 9, wherein each of the extension lines is in contact with the second substrate.

12. The driving device according to claim 9, wherein the insulation film is in contact with the second substrate.

13. The driving device according to claim 9, wherein the diode functional film is in contact with the second substrate.

14. The driving device according to claim 9, wherein the diode functional film is segmented into a plurality of film segments such that the plurality of film segments extend along the plurality of extension lines, respectively.

15. The driving device according to claim 9, wherein the diode functional film is provided only in the at least one aperture of the insulating film.

16. The driving device according to claim 9, wherein the diode functional film includes a stacked film having a p-type semiconductor material film and an n-type semiconductor material film.

17. The driving device according to claim 9, wherein the first substrate and the second substrate are the same substrate.

18. A driving device for a display panel, the display panel including a plurality of address electrodes, a plurality of data electrodes, a plurality of display elements and a first substrate such that the plurality of address electrodes and data electrodes intersect each other on the first substrate and enclose the plurality of display elements between the plurality of address electrodes and data electrodes, the driving device comprising:

a second substrate;

a plurality of control lines for data signal generation;

at least one analog signal input line, extending in parallel with the plurality of control lines;

a plurality of control connection lines, intersecting the plurality of control lines and the at least one analog signal input line to form a plurality of intersecting portions, such that the insulating film and diode functional film generally extend between the plurality of control connection lines and the plurality of control lines and at least one analog signal input line on the second substrate; and,

a plurality of extension lines extending to the plurality of data electrodes, respectively, such that the plurality of extension lines have overlapping portions which overlap end portions of the control connection lines on the second substrate to sandwich the insulating film and the diode functional film, and

wherein the insulating film has aperture portions in at least one of the plurality of intersecting portions and in the overlapping portions.

19. The driving device according to claim 18, wherein the control lines, the at least one analog signal input, and the extension lines are each in contact with the second substrate.

20. The driving device according to claim 18, wherein each of the control connection lines is in contact with the second substrate.

21. The driving device according to claim 18, wherein the insulation film is in contact with the second substrate.

22. The driving device according to claim 18, wherein the diode functional film is in contact with the second substrate.

23. The display panel driving device according to claim 18, wherein the diode functional film is segmented into a plurality of film segments such that the plurality of film segments extend along the plurality of extension lines, respectively.

24. The driving device according to claim 18, wherein the diode functional film is provided only in the aperture portions of the insulating film.

25. The driving device according to claim 18, wherein the diode functional film includes a stacked film having a p-type semiconductor material film and an n-type semiconductor material film.

26. The driving device according to claim 18, wherein the first substrate and the second substrate are the same substrate.